What is claimed is:

1. A method for reducing track misregistration errors in a disk drive, comprising:

specifying a write fault of at least a first magnitude;

in response to detecting a write fault of at least said first magnitude, preventing a write operation from occurring for at least a first time period;

specifying a write fault of at least a second magnitude, wherein said second magnitude is greater than said first magnitude;

in response to detecting a write fault of at least said second magnitude, preventing a write operation from occurring for a least a second time period, wherein said second time period is greater than said first time period.

2. The method of Claim 1, wherein said first time period is a time equal to an amount of time required for at least two disk hard sectors to pass beneath said transducer head.

3. The method of Claim 1, wherein said first time period is about 130 μs.

4. The method of Claim 1, wherein said second time period is a time equivalent to an amount of time required for at least 120 disk hard sectors to pass beneath said transducer head.

5. The method of Claim 1, wherein said second time period is about 6 ms.

6. The method of Claim 1, wherein said second magnitude is greater than about two times said first magnitude.

7. The method of Claim 1, wherein said write faults are measured as a distance of a transducer head from a centerline of a data track.

8. The method of Claim 7, wherein said second magnitude comprises a write fault of about 35% of a data track width.

9. The method of Claim 7, wherein said first magnitude comprises a write fault of greater than about 15% of a data track width, and wherein said second magnitude comprises a write fault of about 35% of a data track width.

10. The method of Claim 1, wherein said second time period is equivalent to a time required for a disk in said disk drive make at least 1/4 of a revolution but less than a full revolution.

11. The method of Claim1, wherein said second time period is equivalent to a time required for a disk in said disk drive to make at least ½ a revolution but not more than 3/4 of a revolution.

12. The method of Claim 1, wherein said second the period is equivalent to a time required for a disk in said disk drive to make about 3/4 of a revolution.

13. A hard disk drive, comprising:

a base;

a disk comprising a plurality of data tracks arranged concentrically about said spindle, wherein each of said data tracks is segmented into a plurality of data sectors by servo sectors, and wherein said disks may be rotated at a constant velocity with respect to said base;

a transducer head having a read head for reading information from said data tracks and a write head for writing information to said data tracks, wherein said transducer head is movable in a radial direction with respect to said disk to address a selected one of said plurality of data tracks;

a voice coil motor, interconnected to said transducer head, for moving said transducer head with respect to said data tracks;

a controller, interconnected to said voice coil motor, for controlling a position of said transducer head with respect to said data tracks, wherein said controller receives information concerning a position of said transducer head with respect to a centerline of a track being followed by said transducer head from said read head, wherein following a deviation of said transducer head from said centerline by a first distance, said write head is prevented from writing information to said data track for a first time period, wherein following a deviation of said transducer head from said centerline by a second distance, greater than said first distance, said write head is prevented from writing information to said data track for a second time period, greater than said first time period.

14. The hard disk drive of Claim 13, wherein said first time period is a time equal to an amount of time required for at least two servo sectors to pass beneath said transducer head.

15. The hard disk drive of Claim 13, wherein said first time period is about 130 μs.

16. The hard disk drive of Claim 13, wherein said second time period is a time equivalent to an amount of time required for at least 120 servo sectors to pass beneath said transducer head.

17. The hard disk drive of Claim 13, wherein said second time period is about 6 ms.

18. The hard disk drive of Claim 13, wherein said second distance is greater than about two times said first distance.

19. The hard disk drive of Claim 13, wherein said second distance comprises a write fault of about 35% of a data track width.

20. The hard disk drive of Claim 19, wherein said first distance comprises a write fault of greater than about 15% of a data track width, and wherein said second distance comprises a write fault of about 35% of a data track width.

21. The hard disk drive of Claim 13, wherein said second time period is equivalent to a time refined for said disk to make at least 1/4 of a revolution but less than a full revolution.

22. The hard disk drive Claim 13, wherein said second time period is equivalent to a time required for said disk to make at least ½ a revolution but not more than 3/4 of a revolution.

23. The hard disk drive of Claim 13, wherein said second time period is equivalent to a time required for said disk to make about 3/4 of a revolution.

24. A method for reducing the off-track position of a disk drive transducer head, comprising:

setting a first write fault threshold as an active write fault threshold;

detecting a first off-track event having a magnitude greater than said first write fault threshold;

in response to said first off-track event, setting a second write fault threshold, wherein said first write fault threshold corresponds to a larger off-track event than said second write fault threshold, and wherein said second write fault threshold is set as said active write fault threshold for at least a predetermined period of time;

detecting a second off-track event having a magnitude greater than said second write fault threshold but less than said first write fault threshold during said period that said second write fault threshold is set as said active write fault threshold; and

in response to said second off-track event, signaling a write fault.

25. The method of Claim 24, wherein said first and second write fault thresholds comprise predetermined distances of said transducer head from a centerline of a target track, and wherein said steps of detecting first and second off-track events comprise detecting movement of said transducer head to a position at a distance from said target track centerline greater than said respective first or second write fault thresholds.

26. The method of Claim 24, wherein said step of detecting a an off-track event comprises detecting a velocity with which said transducer head crosses a third write fault threshold, wherein said third write fault threshold comprises a predetermined distance from a centerline of a target data track.

27. The method of Claim 24, wherein said first write fault threshold is equal to said third write fault threshold.

28. The method of Claim 24, wherein said first write fault threshold has a magnitude of about two times a magnitude of said second write fault threshold.

29. The method of Claim 24, wherein said first write fault threshold corresponds to a distance of said transducer head from a centerline of a data track equal to about 35% of a width of said data track.

30. The method of Claim 24, wherein said second write fault threshold corresponds to a distance of said transducer head from a centerline of a data track equal to about 15% of a width of said data track.

31. The method of Claim 24, wherein a write fault is signaled in response to said first off-track event.

32. A hard disk drive, comprising:

a base;

a disk comprising a plurality of data tracks arranged concentrically about said spindle, wherein each of said data tracks is segmented into a plurality of sectors, and wherein said disk may be rotated at a constant velocity with respect to said base;

a transducer head having a read head for reading information from said data tracks and a write head for writing information to said data tracks, wherein said transducer head is movable in a radial direction with respect to said disk to address a selected one of said plurality of data tracks;

a voice coil motor, interconnected to said transducer head, for moving said transducer head with respect to said data tracks;

a controller, interconnected to said voice coil motor, for controlling a position of said transducer head with respect to said data tracks, wherein said controller receives information concerning a position of said transducer head with respect to a centerline of a track being followed by said transducer head from said read head, wherein following detection of a first off-track event of at least a first magnitude a write fault is triggered, wherein following detection of a second off-track event of at least a second magnitude within a predetermined amount of time following said first off-track event, a write fault is triggered, and wherein said first magnitude is greater than said second magnitude.

33. The hard disk drive of Claim 32, wherein said first off-track event is detected as a deviation of said transducer head from a centerline of a target track by at least a first predetermined distance, and wherein said second off-track event is detected as

a deviation of said transducer head from a centerline of a target track by at least a second predetermined distance.

34. The hard disk drive of Claim 32, wherein said step of detecting a first off-track event comprises detecting a velocity with which said transducer head crosses a predetermined distance from a centerline of a target data track.

35. The hard disk drive of Claim 32, wherein said first magnitude is about two times said second magnitude.

36. The hard disk drive of Claim 32, wherein said first magnitude corresponds to a distance of said transducer head from a centerline of a data track equal to about 35% of a width of said data track.

37. The hard disk drive of Claim 32, wherein said second magnitude corresponds to a distance of said transducer head from a centerline of a data track equal to about 15% of a width of said data track.

38. A method for reducing the off-track position of a disk drive transducer head, comprising:

setting a first write fault threshold value;

measuring a distance of said transducer head from a centerline of a target data tracks within at least a first period of time;

calculating an accumulated offset value;

comparing said accumulated offset value to said accumulated offset threshold value; and

modifying transducer head position control parameters if said accumulated offset value is greater than said accumulated offset threshold value.

39. The method of Claim 38, wherein said distance of said transducer head from a centerline of a target data track is measured at discrete moments in time during said at least a first period of time.

40. The method of Claim 38, wherein said steps of calculating an accumulated offset value comprises:

determining, for each of the last N servo sectors over which such transducer head has passed, a position error with respect to a center line of a target track;

calculating a sum of said N position errors;

dividing said sum of N position errors by N to obtain an average position error;

determining a position error with respect to a next servo sector;

calculating a difference said average position error and said position error with respect to said next servo sector;

dividing said difference by N to obtain a quotient;

adding said quotient to said average position error to obtain a new average position error; and

setting said new average position error equal to said accumulated offset value.

41. The method of Claim 38, wherein said accumulated offset value comprises at least four measurements of said distance of said transducer head from a centerline of said data track.

42. The method of Claim 38, wherein said step of modifying said transducer head position control parameters comprises prohibiting a transducer head write operation for at least a second period of time.

43. The method of Claim 42, wherein said second period of time is about 4ms.

44. The method of Claim 38, wherein said step of modifying said transducer head position control parameters comprises setting a second write fault threshold value, wherein said second write fault threshold value has a magnitude that is less than said first write fault threshold value.

45. A hard disk drive, comprising:

a base;

a disk comprising a plurality of data tracks arranged concentrically about said spindle, wherein each of said data tracks is segmented into a plurality of sectors, and wherein said disk may be rotated at a constant velocity with respect to said base;

a transducer head having a read head for reading information from said data tracks and a write head for writing information to said data tracks, wherein said transducer head is movable in a radial direction with respect to said disk to address a selected one of said plurality of data tracks;

a voice coil motor, interconnected to said transducer head, for moving said transducer head with respect to said data tracks;

a controller, interconnected to said voice coil motor, for controlling a position of said transducer head with respect to said data tracks, wherein said controller receives information concerning a position error of said transducer head with respect to a centerline of a track being followed by said transducer head from said read head, wherein said information concerning a position error is accumulated over a first period of time to obtain an accumulated position error, wherein parameters of said controller are modified for at least a second period of time if said accumulated position error is greater than an accumulated offset threshold value.

46. The hard disk drive of Claim 45, wherein said position error of said transducer head is measured at discrete moments in time during said at least a first period of time.

47. The hard disk drive of Claim 45, wherein said accumulated position error comprises at least four measurements of said distance of said transducer head from a centerline of said track being followed.

48. The hard disk drive of Claim 45, wherein parameters of said controller modified for at least said second period of time include prohibiting a transducer head write operations for at least said second period of time.

49. The hard disk drive of Claim 45, wherein said second period of time is about 4ms.

50. The hard disk drive of Claim 45, wherein said step of modifying said transducer head position control parameters comprises setting a second write fault threshold value, wherein said second write fault threshold value has a magnitude that is less than said first write fault threshold value.

51. A method for reducing track misregistration errors in a disk drive, comprising:

detecting an off-track event, wherein a transducer head of said disk drive is outside of an off-track threshold;

comparing a magnitude of said detected off-track event to a severe shock threshold; and

prohibiting write operations for an extended period of time if said detected off-track event exceeds said severe shock threshold.

52. The method of Claim 51, wherein said extended period of time is equivalent to an amount of time required for at least 120 disk hard sectors to pass beneath end transducer head.

53. The method of Claim 51, wherein said extended period of time is about 6ms.

54. The method of Claim 51, wherein said off-track event is measured as a distance of said transducer head from a centerline of a data track.

55. The method of Claim 51, wherein said severe shock threshold comprises a distance of said transducer head from a centerline of a data track of about 35% of a width of said data track.

56. The method of Claim 51, wherein said extended period of time is equivalent to an amount of time required for a disk in said disk drive to make at least 1/4 of a revolution but less than a full revolution.

57. The method of Claim 51, wherein said extended period of time is equivalent to an amount of time required for a disk in said disk drive to make at least ½ a revolution but not more than 3/4 of a revolution.

58. The method of Claim 51, wherein said extended period of time is equivalent to an amount of time required for a disk in said disk drive to make about 3/4 of a revolution.

59. The method of Claim 51, further comprising prohibiting write operations for a shortened period of time if said detected off-track event does not exceed said severe shock threshold.

60. The method of Claim 59, wherein said shortened period of time is equivalent to an amount of required for at least 2 data track sectors to pass beneath said transducer head.

61. The method of Claim 59, wherein said shortened period of time is about 130 ms.

62. The method of Claim 56, wherein an off-track event comprises a deviation of said transducer head from a centerline of a data track by a distance equivalent to about 15% of a width of said data track.